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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,353	11/19/2001	Xiaodong C. Xu	MTC6788 (39-21 (52589))	8762

321 7590 07/24/2003

SENNIGER POWERS LEAVITT AND ROEDEL
ONE METROPOLITAN SQUARE
16TH FLOOR
ST LOUIS, MO 63102

EXAMINER

CLARDY, S

ART UNIT PAPER NUMBER

1616

DATE MAILED: 07/24/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant(s)

09/988,353

Applicant(s)

XU ET AL.

Examiner

S. Mark Clardy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-148 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) See Continuation Sheet is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/926,521.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims withdrawn from consideration are 1,2,7-10,33,34,40-42,49,50,55,56,62,63,69,72,77,80-83,88,93,96,99,100,106,107,124-127,131-133,137-139 and 148.

Continuation of Disposition of Claims: Claims rejected are 3-6,11-32,35-39,43-48,51-54,57-61,64-68,70,71,73-76,78,79,84-87,89-92,94,95,97,98,101-105,108-123,128-130,134-136 and 140-147.

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Claims 1-148 are pending in this application which is a continuation in part of SN 09/926,521, which was filed under 35 USC 371 as the national stage application of PCT/US01/16550, filed May 21, 2001, which claims the benefit under 35 USC 119(e) of US Provisional Applications No. 60/206,628 (May 24, 2000), 60/205,524 (May 19, 2000), 60/273,234 (March 2, 2001), and 60/274,368 (March 8, 2001). The following continuation applications have also been filed: 09/988,340; 09/988,352.

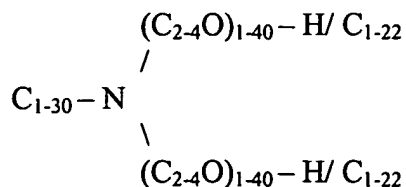
Applicant's election with traverse of Group I (actually III see below), drawn to herbicidal glyphosate compositions in Paper No. 6 is acknowledged. The traversal is on the ground(s) that prior art search and examination of Group III will necessarily coextend with the search and examination of the claims of Groups I and II. This is not found persuasive because Groups I and II are drawn to generic pesticidal (classes 424 or 514) and herbicidal (class 504) compositions which are much more broad in scope than the elected invention which is limited to class 504, subclass 206. It is noted that Group I was elected; however, in view of the species election in which glyphosate is the active agent, it appears that Group III was in fact the elected invention. Examination has proceeded on this basis.

Applicants further elected the species comprising:

Glyphosate (acid, salt, or ester)

Oxalic acid (as the dicarboxylic acid)

Dialkoxylated Amine Surfactant (formula 36, page 23):



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Claims 1, 2, 7-10, 33, 34, 40-42, 99, 100, 106, 107, 125-127, 131-133, 137-139, and 148 have been held withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention (i.e., non-glyphosate Groups I and II), there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 6.

The requirement is still deemed proper and is therefore made FINAL.

Claims 49, 50, 55, 56, 62, 63 have also been held withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species ("free radical generating oxidase").

Claims 69, 72, 77, 80-83, 88, 93, 96, and 124 have also been held withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species (oxalate salts, rather than oxalic acid).

Claims 3-6, 11-32, 35-39, 43-48, 51-54, 57-61, 64-68, 70, 71, 73-76, 78, 79, 84-87, 89-92, 94, 95, 97, 98, 101-105, 108-123, 128-130, 134-136, and 140-147 read on the elected invention and species, and have been examined.

Claim 5 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 4. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 6, 130, and 135 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 6, the term "may" renders the claim indefinite; further, the term "said stratum" lacks antecedent basis. In claims 130, the range of 480 to 600 g/l is not contained within the range of the parent claim, i.e., 500 to 600 g/l. Similarly, in claim 135, the range 20 to 150 g/l is not within the range of the parent claim, i.e., 60 to 200 g/l.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-6, 11-32, 35-39, 43-48, 51-54, 57-61, 64-68, 70, 71, 73-76, 78, 79, 84-87, 89-92, 94, 95, 97, 98, 101-105, 108-123, 128-130, 134-136, and 140-147 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined teachings of Ward et al (US 6,093,681), Wright et al (US 5,750,468), Suzuki et al (US 6,313,074), Beestman et al (US 4,159,901), and Turner¹.

Ward et al teach the utility of formulating herbicides such as glyphosate (col 18, lines 18-19) in an aqueous composition which forms anisotropic aggregates on the waxy cuticle layer of a plant which, according to the inventors' understanding, enhances herbicidal activity by forming hydrophilic channels through the epicuticular wax (abstract). The aggregate forming substances tend to form lyotropic mesophases (col 11,

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lines 3-6), and may be present as a bilayer or liquid crystal structure (col 10, lines 5-67). Among the useful surfactants for the compositions are alkoxyalkated etherammonium surfactants (col 7-8).

Wright et al teach aqueous glyphosate formulations comprising alkoxyalkated etheramine surfactants (abstract, columns 3-4 and 14), which may also contain additional surfactants (col 8, lines 35-36). An advantage of the compositions is the high concentrations of glyphosate that may be achieved, for example, 450 to 500 g ae/l (col 5, lines 31-40).

Suzuki et al teach that agrochemicals such as glyphosate (col 7, lines 30-31) may be combined in various conventional formulations such as emulsions (col 5, lines 9-11) with additives that enhance the activity of the agrochemical, specifically, an alkoxyalkated ether surfactant (column 1), which may be combined with other surfactants (col 2, lines 64-66). The compositions may also comprise a chelating agent (columns 3-4) such as the aliphatic carboxylic acid, oxalic acid (col 4, lines 37-39).

Beestman et al teach that it was known to formulate glyphosate with surfactants (column 3), including alkoxyalkated alkylamines (lines 51-60), and oxalic acid to counteract the activity reducing effect of hard water, i.e., calcium or magnesium ions in the dilution water (col 7, lines 38-65).

Turner teaches that the addition of surfactants generally improves the activity of glyphosate (p.223-225), and that polybasic acids such as oxalic acid also enhance its activity (p. 230).

¹ Turner, D. J. "Effects on glyphosate performance of formulation, additives and mixing with other herbicides". Chapter 15 in *The Herbicide Glyphosate*. Grossbard et al, ed. Butterworths : Boston. P. 221-239. 1985.

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One of ordinary skill in the art would be motivated to combine these references because they disclose the utility enhancing effects of additives in glyphosate compositions.

Thus it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to have combined applicants' elected etheramine surfactants and oxalic acid with glyphosate because the prior art teaches that these components were known in glyphosate compositions, and that they serve to enhance the herbicidal activity of glyphosate.

No unobvious or unexpected results are noted; no claim is allowed.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Mark Clardy whose telephone number is 703-308-4550. The examiner can normally be reached on 7:20 - 3:50.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman Page can be reached on 308-2927. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-9259 for regular communications and 703-746-9259 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235.



S. Mark Clardy
Primary Examiner
AU 1616

July 23, 2003